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■ BRICK ■  
TILE  
*and*  
FIRE PROOFING  
MACHINERY

■ E. & M. F. ■



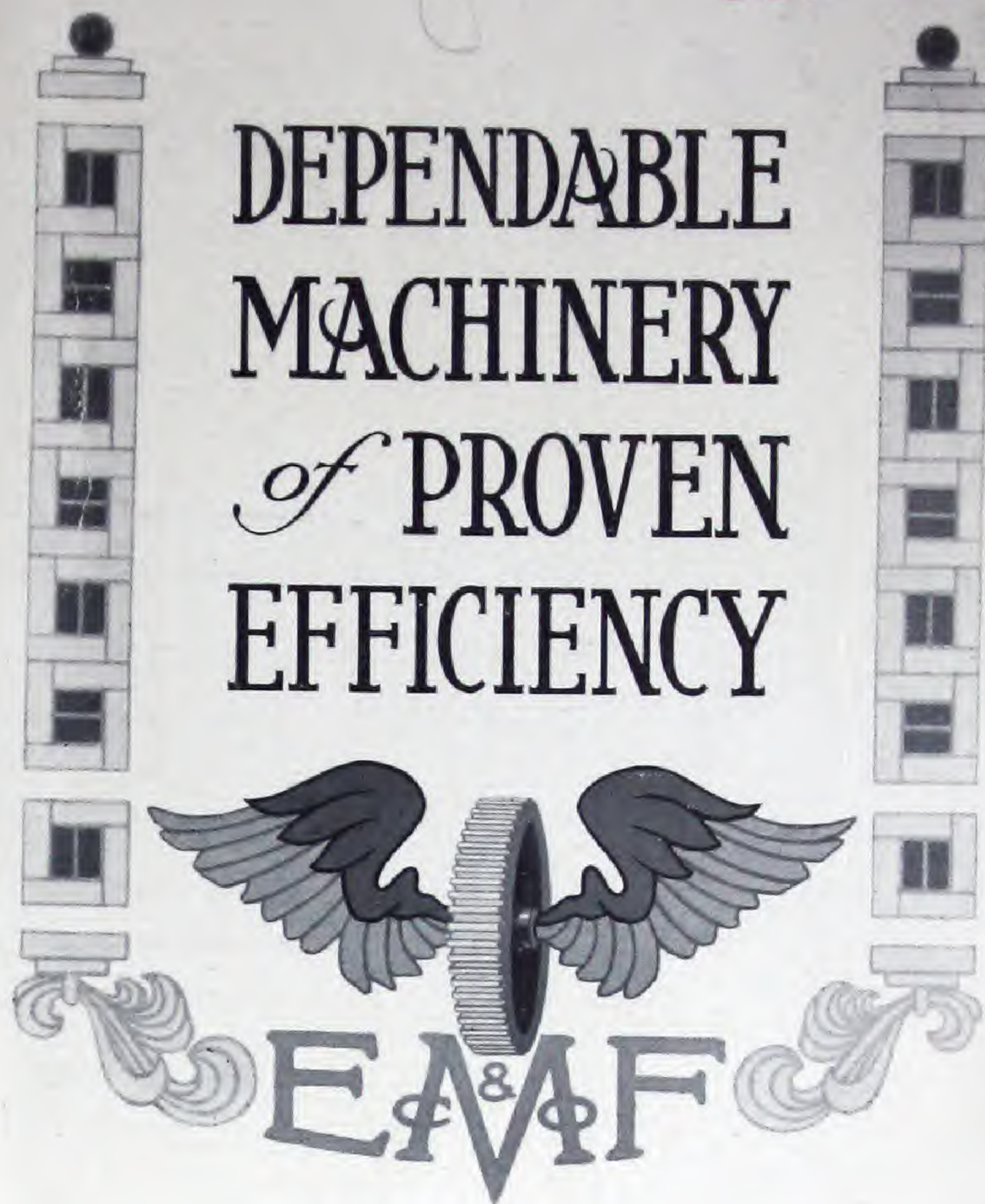




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In submitting this folder we ask only that you compare our machinery by details of construction and judge it by performance and record, remembering that comparison by "capacities" is unfair to the conservatively rated machine—and to yourself, and that, after all, the really valuable and satisfactory machine is the one that economically produces the quality and quantity—today and tomorrow.

This folder illustrates but a part of our product. A complete catalog is impracticable because of improvements and additions we are constantly making. We manufacture twenty-two patterns and sizes of the Union Machine, thirteen sizes and designs of separate auger machines, sixteen types of pug mills, four sizes of automatic side brick cutters.

We build the largest combination auger machine and pug mill made, the largest automatic side brick cutter, and the only automatic cutter that will produce the Dunn Wire-Cut-Lug Paving Block. We build the largest hollow-ware machine and the only automatic fire-proofing cutter that will cut all sizes and angles.

But what is more pleasing to us and should directly interest you as a prospective purchaser is the fact that our machinery has proven satisfactory to the most successful manufacturers of building brick, paving brick, fire brick, and fire-proofing, and that our cutters are universally used for such exacting work as producing front brick without repressing.

Thirty-three years' experience in building this one class of machinery; careful study of the clayworker's needs and an earnest endeavor to supply them; constant effort to improve and perfect, eliminating all known defects and perpetuating every proven detail of the hundreds of machines that have gone before, places us in position to supply Dependable Machinery of Proven Efficiency. No manufacturer can offer more.





# **MODEL KD UNION BRICK MACHINE**

**AN AUGER BRICK MACHINE AND  
A PUG MILL IN ONE CONSTRUCTION**

**DESIGNED FOR THE MANUFACTURE  
OF BUILDING, PAVING AND FIRE  
BRICK, AND—WITH SPECIAL ATTACH-  
MENTS—DRAIN TILE AND HOLLOW  
BUILDING BLOCKS.**

**E. M. FREESE AND COMPANY, GALION, OHIO**

**ESTABLISHED 1881**

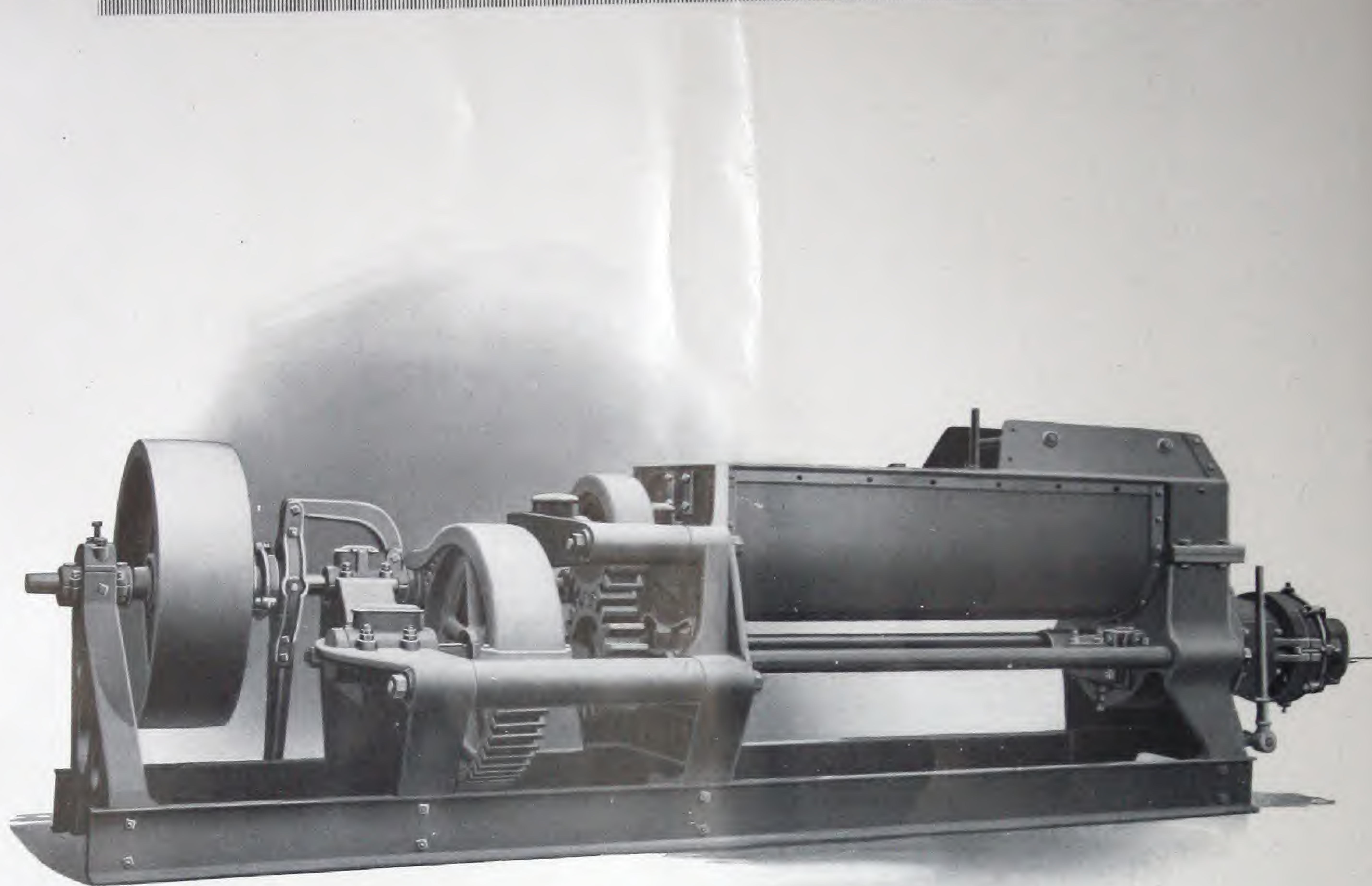
**NEW YORK, N. Y.**

**PITTSBURGH, PA.**

**QUINCY, ILL.**

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MODEL KD UNION BRICK MACHINE—FIG. 303

Length over all .....	19' 3½"
Length center of pulley to mouth of die .....	17' 6"
Length of steel beams .....	16' 0"
Length center of pulley to rear of pug chamber .....	6' 1½"
Width over all, including pulley .....	5' 6"
Width out to out of steel beams .....	3' 2"
Height over all .....	5' 5"
Height at front end of pug chamber .....	5' 5"
Height at rear end of pug chamber .....	4' 8"
Height to center of die .....	2' 2½"
Diameter of friction clutch pulley .....	42"
Width of friction clutch pulley .....	12"
Speed of friction clutch pulley .....	150 to 175 R. P. M.
Weight of machine .....	12,000 pounds
Recommended capacity per ten hours .....	20,000 to 40,000



Added features	The Model KD Union Brick Machine is an improved pattern of our Union Machine. The new design adds two important features—Greater Accessibility and Exceptionally Quiet Operation.
Inexpensive installation	To intelligently figure the cost of a brick machine two points must be considered—the price of the machine including installation, and the expense of its operation. With the Model KD Union Brick Machine—an auger machine and pug mill in one construction—the structural work necessary to support a separate pug mill is eliminated, as is also one belt and pulley. It is considerably easier and less expensive to install.
Convenience	Where surface clay is used and the material fed direct from the bank into the pug chamber, it has a decided advantage. The feeding point is low—only 4½ feet from the floor line—which is six feet lower than the feeding point of a properly arranged pug mill when built separate from the auger machine. Where shale or fire clay is used it allows a large storage bin above the machine without excessive building height.
Large storage possible	
Less friction repairs and power	With one set of gears, one belt and driving pulley, it creates less friction, requires less repairs and consumes less power, and the fact that the pug mill man is in position to readily reach the machine die or cutter further increases the economy of operation.
Dependability	Every effort has been expended to make the Model KD Union Brick Machine thoroughly dependable. It is exceptionally powerful for its size—has three long journal bearings on every shaft. The heavy reinforced frame castings extend to the floor line and are bolted directly to the foundation, giving a very rigid base.
Three bearings on each shaft	
Accessibility important	Next in importance to the amount of repairs necessary is the expense and time required to put them in place. Under working conditions much of the repair work must be done after working hours—sometimes under unfavorable conditions—and it is here the accessibility of a machine proves its value. Repairs that require but a short time with the Model KD Union Brick Machine may mean serious delay—if not a lengthy shut-down—with a machine which necessitates partial or complete dismantling to reach the working parts.
Repairs quickly made	
Slow-running gears	The Freese direct-gear construction, with the pinion on the pulley shaft meshing directly into the main gear wheel, has several economical advantages. It makes possible a low gear speed, no pinion or gear on the Model KD Machine running over 160 revolutions per minute for normal capacity. This not only minimizes vibration and friction, consequently reducing wear and power consumption, but gives to this machine the smooth, quiet operation appreciated especially by those who have had experience with noisy high-speed gearing.
Smooth, quiet operation	
Details carefully worked out	Each detail of the Model KD Union Brick Machine has been carefully worked out. Many of the important points—the really valuable features—will be fully appreciated only by men who have personally handled this class of machinery. Every working part is made renewable and, where possible, is so constructed that only the part or section worn need be renewed.
Steel pug knives	The pugging knives are made of steel to minimize the danger of a knife breaking and passing into the auger. They are forged and hardened to give long service.



Removable knife sockets	The pug knife sockets, into which the pugging knives are fastened, are removable and interchangeable. Any knife or any socket may be removed without disturbing any other knife or socket. They are also made so the pitch of any knife may be changed without removing its socket, and additional knives may be added if found advantageous. Where the nature of the material makes it advisable, the pugging knives are inserted in holes drilled in the shaft, the knives being adjustable to any pitch.
Adjustably inserted knives	
Renewable auger	The auger is made in renewable sections of extra hard metal and designed to suit the nature of the material used and kind of product molded.
Positive force feed	The wide feeder arms on the forward end of the pug shaft revolve deep into the auger, making it impossible for the clay to bridge or clog and giving a positive force feed. They are fitted with renewable hard-iron shoes.
Die construction	The die is made with hand fitted renewable lubricating frames and adjustable for intensity and distribution of lubrication, making it possible to uniformly lubricate all parts of the clay column.
Marine thrust bearings	The thrust bearing on the auger shaft—the most important bearing of a brick machine—is of the Marine type, with a very large pressure area. It is fitted with a renewable steel sleeve and backed by a bronze disc. The thrust bearing on the pug shaft is also of the Marine type, and is placed outside the gear—back of it—and away from the pug chamber.
Adjustable bearings	The front bearing on the auger shaft is adjustable in all directions to allow exact centering of the auger. The outboard bearing on the pulley shaft, supported by a heavy outboard stand, is also adjustable in all directions.
Powerful friction clutch	The friction clutch pulley is powerful and dependable—fitted with a renewable hub bushing. It can be operated from either side of the machine and may turn in either direction.
Renewable nozzle liners	The nozzle of the machine is lined with renewable hard-iron staves fitting close to the auger. Any stave that becomes worn can be removed and replaced without disturbing the others.
Hinged front Safety bolt	The front or head of the Model KD Union Brick Machine is hinged for easy access and fitted with a safety bolt that releases the head in case of excessive pressure so the obstruction may clear without injury to the machine.
Journal caps set in frame	The journal caps are planed to fit machined recesses in the main frame, thus relieving the bolts of all side strain. With the belt pull from either side of the machine the strain cannot be placed directly upon the cap bolts.
Drain tile, hollow blocks, etc.	In some localities it is of considerable advantage to manufacture a diversified product. The Model KD Union Brick Machine is so constructed that by the use of specially designed attachments, drain tile, hollow building blocks, etc., can also be economically molded.



We furnish complete equipment for modern plants of any capacity for the manufacture of building or fire brick, Dunn Wire-Cut-Lug or repressed paving block, fire-proofing, drain tile, hollow building block, electrical conduits, or radial chimney block. Following is a partial list of Clay Working Machinery and Equipment we manufacture in a variety of patterns, sizes and capacities:

Auger Brick Machines, Union Brick Machines, Auger Hollow-ware Machines, Union Hollow-ware Machines, Auger Drain Tile Machines, Union Drain Tile Machines, Rotating Automatic Brick Cutters, Reciprocating Automatic Brick Cutters, Automatic Fire Proofing Cutters, Rotating Tile and Hollow-ware Cutters, Flexible Carrier Tile and Hollow-ware Cutters, Rotating Hand Cutters, Board Delivery Hand Cutters, Pug Mills, Disintegrators, Crushers, Spiral Conveyors, Belt Conveyors, Bucket Elevators, Tile Elevators, Brick Elevators, Elevator Boots, Clay Hoists, Brake Drums, Dryer Cars, Clay Cars, Transfer Cars, Turntables, Spiral Clay Feeders, Disc Clay Feeders, Revolving Screens, Piano Wire Screens, Brick Testing Rattlers, Brick and Tile Barrows, Brick and Tile Trucks, Dies, Cutting Wires, Pulleys, Journal Boxes, and Special Machinery.

Our complete testing facilities, engineering department, and information bureau are always at your service.

















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